



2005 Annual Water Quality Report

City of Falls Church
Department of Environmental Services

Dear Valued Customer:

We are pleased to present a summary of the quality of the water provided to you during the past year. This time last year, there was much concern about elevated lead levels in drinking water associated with lead service lines in the District of Columbia, supplied by the Washington Aqueduct, which also is the City's primary supplier. Although the City has no lead service lines, we collected hundreds of extra samples from homes, schools and daycare facilities to ensure that water in the City's distribution system continues to meet Federal standards for lead. In August 2004, the Washington Aqueduct began using orthophosphate to prevent lead from leaching into the drinking water, and results from the District of Columbia this year so far indicate the treatment change has reduced lead levels. Since the treatment change in August, the City has continued meet all drinking water standards.

The Safe Drinking Water Act (SDWA) requires that utilities issue an annual "Consumer Confidence" report to customers in addition to other notices that may be required by law. This report details where our water comes from, what it contains, and the risks our water testing and treatment are designed to prevent. The City of Falls Church Department of Environmental Services is committed to providing you with the safest and most reliable water supply. Informed consumers are our best allies in maintaining safe drinking water.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

Ban bao cao co ghi nhung chi tiet quan trong ve pham chat nuoc trong cong dong quy vi. Hay nho nguoi thong dich, hoac hoi mot nguoi ban biet ro ve van de nay.

The City of Falls Church Department of Environmental Services's drinking water meets or surpasses all federal and state drinking-water standards.

Call us for information about the next opportunity for public participation in decisions about our drinking water. Falls Church City Council meetings generally are held the 2nd and 4th Mondays each month at 7:30 PM in City Hall at 300 Park Ave., Falls Church VA 22046. If you have any questions about this report, please contact Mr. Matthew Jacobi by phone at (703) 248-5070, or by email at mjacobi@fallschurchva.gov. More information is available on the World Wide Web at www.waterdata.com and at www.epa.gov/safewater. This report is also posted on the City's Web site at www.fallschurchva.gov.

Dan McKeever
City Manager

What is the Source of My Drinking Water?

The City of Falls Church Department of Environmental Services is supplied by the Washington Aqueduct and Fairfax Water, which draw the water from the Potomac River. The Washington Aqueduct also supplies water to Arlington County, Virginia and the District of Columbia.

A source water assessment for Fairfax Water has been conducted by the Virginia Department of Health. The Potomac River was determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program, which is consistent with the state's finding of other surface waters (rivers, lakes, streams) throughout Virginia. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination within the last five years. A version of the report is available by contacting the City's Public Utilities Division at 703-248-5070.



A detailed source water assessment to find better ways to protect the water sources for the Washington Aqueduct is in process. After the assessment is complete, information will be available about potential sources of contamination and measures to reduce/eliminate those sources.

How Do I Read The Charts Below?

The City of Falls Church and our water suppliers routinely monitor for constituents in your drinking water according to federal and state laws. The first table shows the results from monitoring that that we conducted, while the second table shows the results of monitoring by the Washington Aqueduct and Fairfax Water.

In the tables you will find many terms and abbreviations that are unfamiliar. To help you better understand these terms, we've provided the following definitions:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are

set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below, which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of a residual disinfectant that is allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of residual disinfectant below, which there is no known or expected risk to health. MRDLGs allow for a margin of safety.

Reporting Level: The highest level detected of a contaminant for comparisons against the acceptance levels for each parameter. These levels could be the single highest measurement, or an average of values depending on the contaminant.

Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirement that a water system must follow.

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Parts per billion (ppb): One part per billion corresponds to a single penny in \$10,000,000.

Parts per million (ppm): One part per million corresponds to a single penny in \$10,000.

Picocuries per liter (pCi/L): Picocuries per liter is a measure of the radioactivity in water.

FINISHED WATER CHARACTERISTICS, CITY OF FALLS CHURCH DISTRIBUTION SYSTEM MONITORING							TABLE 1
Substance	Unit	MCLG	MCL	Reporting Level	Range	Major Sources	
Total Coliform	% of samples	0	5	1.25	N/A	Naturally present in environment	
Chloramines	ppm	(MRDLG) 4	(MRDL) 4	2.19	N/A	Water additive used to control microbes	
Copper ¹	ppm	1.3	1.3	0.07	ND - 0.18	Corrosion of household plumbing systems; Erosion of natural deposits	
Lead ²	ppb	0	15	2	ND - 6	Corrosion of household plumbing systems; Erosion of natural deposits	
Total Trihalomethanes	ppb	0	80	26	5-53	Byproduct of drinking water chlorination	
Total Haloacetic Acids	ppb	N/A	60	22	4 - 36	Byproduct of drinking water chlorination	

FINISHED WATER CHARACTERISTICS, SOURCE MONITORING									TABLE 2
Substance	Unit	MCLG	MCL	Washington Aqueduct		Fairfax Water		Major Sources	
				AVG	RANGE	AVG	RANGE		
Alpha Emitters ³	pCi/L	0	15	ND	ND - 2.1	0.7	0.2 - 1.2	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation	
Arsenic	ppb	N/A	50	ND	ND - 0.5	ND	ND	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronic production wastes	
Atrazine	ppb	3	3	0.08	ND - 0.18	0.03	ND - 0.08	Runoff from herbicide used on row crops	
Barium	ppb	2	2	0.04	0.03 - 0.05	0.06	0.04 - 0.07	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Beta/photon Emitters ^{3,4}	PCi/L	0	50	2.1	1.2 - 3.0	4.2	3.4 - 6	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation	
Chromium	ppb	100	100	.8	ND - 1.3	ND	ND	Discharge from steel and pulp mills; Erosion of natural deposits	
Fluoride	ppm	4	4	0.9	0.7 - 1.0	0.9	0.2 - 1.6	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	
Nitrate	ppm	10	10	1.8	1.5 - 2.6	1.1	0.6 - 1.5	Runoff from fertilizer use; Leaching from septic tanks; Erosion of natural deposits	
Nitrite	ppm	1	1	ND	ND	ND	ND - 0.03	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
Selenium	ppb	50	50	ND	ND - 1.0	ND	ND	Discharge from petroleum refineries; erosion of natural deposits; discharge from mines	
Simazine	ppb	4	4	ND	ND - 0.09	0.01	ND - 0.05	Herbicide runoff	
Total Organic Carbon	ratio	N/A	TT ⁵	1.6 ⁶	1.0 - 2.0	1.2 ⁶	0.6 - 1.9	Naturally present in the environment	
Turbidity	NTU	N/A	TT	0.05	0.12 ⁷	0.08	0.75 ⁸	Soil runoff	

Water-Quality Table Footnotes

- 1) No samples exceeded AL.
- 2) No samples exceeded AL.
- 3) Washington Aqueduct testing performed in 2002. Fairfax Water testing performed in 2003.
- 4) The MCL for the Beta particles is written as 4 mrem/year. EPA considers 50 pCi/l to be the level concern for Beta particles.
- 5) Total Organic Carbon has no health effects. However, it provides a medium for the formation of disinfection byproducts, which include trihalomethanes and haloacetic acids. Compliance with the treatment technique (TT) reduces the formation of these by products.
- 6) Average reported for Total Organic Carbon is Quarterly Running Annual Average (QRAA) of the monthly ratio of actual Total Organic Carbon removal versus required Total Organic Carbon removal between source and treated waters. A QRAA of 1 or greater is to be in compliance.
- 7) 100% of samples tested were below the treatment technique level of 0.5 NTU. The single highest measurement was 0.07 NTU is reported here. Any single measurement in excess of 1.0 NTU is a violation unless otherwise approved by the state. Turbidity is measured because it is a good indicator of the effectiveness of the filtration system used.
- 8) 99.987% of samples tested were below the treatment technique level of 0.5 NTU. The single highest measurement of 0.75 NTU is reported here. Any single measurement in excess of 1.0 NTU is a violation unless otherwise approved by the state. Turbidity is measured because it is a good indicator of the effectiveness of the filtration system used.

Key To Tables
AL = Action Level
MCL = Maximum Contaminant Level
TT = Treatment Technique
MCLG = Maximum Contaminant Level Goal
MRDL = Maximum Residual Disinfectant Level
ppb = parts per billion, or micrograms per liter (µg/l)
NTU = Nephelometric Turbidity Units
MRDLG = Maximum Residual Disinfectant Level Goal
mrem/year = millirems per year
pCi/l = picocuries per liter (a measure of radioactivity)
ND = none detected
ppm = parts per million, or milligrams per liter (mg/l)
N/A = not applicable

About *Cryptosporidium*

Cryptosporidium is a single-celled organism that lives and reproduces within the intestines of an animal host. During its lifecycle it matures into cells called oocysts. Exposure to oocysts can result in a disease called *cryptosporidiosis*, which can cause diarrhea, cramps, and loss of appetite, weight loss, nausea and low-grade fever. The City's water providers currently monitor for *cryptosporidium* in the source water before treatment for compliance with the EPA's upcoming Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). In 2004, the Washington Aqueduct did not detect any *cryptosporidium* and Fairfax Water detected an average concentration of 0.024 oocysts/Liter. Once the LT2ESWTR takes effect, the average *cryptosporidium* concentration will determine if additional treatment measures are needed. The levels found by both of the City's water providers are below the level expected to trigger additional water treatment measures.

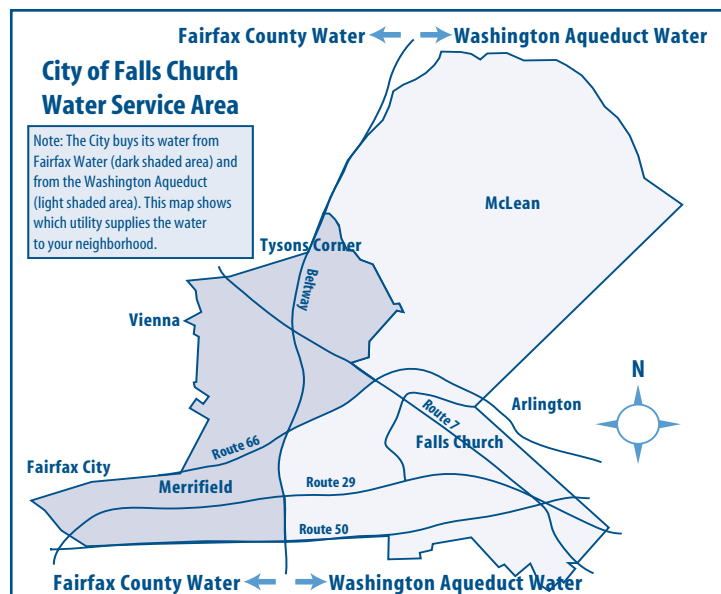
Important Health Information About Drinking Water

To ensure that tap water is safe to drink, EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.



- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Should Some People Take Special Precautions?

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than is the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

Want More Information?

If you have any questions about this report, or need more information, please let us know.

Customer Service Division (billing questions)

(703) 248-5071

Public Utilities Division (technical questions)

(703) 248-5070

This report may be viewed on the web at:

www.fallschurchva.gov

Please address correspondence to:

**City of Falls Church
Department of Environmental Services
Public Utilities Division
300 Park Avenue
Falls Church, VA 22046**

Postal Customer

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Falls Church, Virginia 22046



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El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

Ban bao cao co ghi nhung chi tiet quan trong ve pham chat nuoc trong cong dong quy vi. Hay nho nguoi thong dich, hoac hoi mot nguoi ban biet ro ve van de nay.